

Data Wrangling Part Two: Joins

Evan Fields

IAP 2015

January 7, 2015

Why join?

Meal	Food
first breakfast	pancake
second breakfast	arugula
lunch	cookies
dinner	ice cream

Food	Rating
ice cream	delicious
arugula	fine
pancake	delicious
cookies	sublime

Meal	Food	Rating
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Why join?

Meal

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first breakfast	pancake
second breakfast	arugula
lunch	cookies
dinner	ice cream

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Match on multiple columns

Airport	Day	# flights
ATL	5	2000
BOS	13	1400
LAX	13	1800
ORD	7	1000

Match on multiple columns

Airport	Day	# flights
ATL	5	2000
BOS	13	1400
LAX	13	1800
ORD	7	1000

Airport	Day	Weather
BOS	23	sunny
ATL	5	overcast
LGA	13	snow
ORD	7	rainy

Match on multiple columns

Airport	Day	# flights
ATL	5	2000
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Airport	Day	Weather
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Airport	Day	# flights	weather
ATL	5	2000	overcast
ORD	7	1000	rainy

Other joins: left outer join

Name	Home
Ned Stark	Winterfell
Cersei Lannister	King's Landing
Varys	King's Landing

Other joins: left outer join

Name	Home
Ned Stark	Winterfell
Cersei Lannister	King's Landing
Varys	King's Landing

Name	Allegiance
Ned Stark	Stark
Cersei Lannister	Lannister
Jon Snow	Night's Watch

Other joins: left outer join

Name	Home
Ned Stark	Winterfell
Cersei Lannister	King's Landing
Varys	King's Landing

Name	Allegiance
Ned Stark	Stark
Cersei Lannister	Lannister
Jon Snow	Night's Watch

Name	Home	Allegiance
Ned Stark	Winterfell	Stark
Cersei Lannister	King's Landing	Lannister
Varys	King's Landing	NA

Other joins: right outer join

Name	Home
Ned Stark	Winterfell
Cersei Lannister	King's Landing
Varys	King's Landing

Name	Allegiance
Ned Stark	Stark
Cersei Lannister	Lannister
Jon Snow	Night's Watch

Name	Home	Allegiance
Ned Stark	Winterfell	Stark
Cersei Lannister	King's Landing	Lannister
Jon Snow	NA	Night's Watch

Other joins: full outer join

Name	Home
Ned Stark	Winterfell
Cersei Lannister	King's Landing
Varys	King's Landing

Name	Allegiance
Ned Stark	Stark
Cersei Lannister	Lannister
Jon Snow	Night's Watch

Name	Home	Allegiance
Ned Stark	Winterfell	Stark
Cersei Lannister	King's Landing	Lannister
Varys	King's Landing	NA
Jon Snow	NA	Night's Watch

SQL

SQL (Structured Query Language) is a common language for interacting with databases.

- Not a general purpose language - does CRUD (create, read, update, and delete data tables)
- SQL statements are easily human readable
- SQL is in widespread use